

Corrective Action Completion Summary Report Harrison County Garage Storage Yard

**State Route 9 and Toot Road
Cadiz, Ohio**

Documentation of CA900CR

OHD987021177

Prepared by
The Ohio Environmental Protection Agency

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Corrective Action Performance Standard Attained – Controls Required, CA900 CR

1.0 Executive Summary

The Ohio Environmental Protection Agency (Ohio EPA) prepared this Corrective Action Completion Summary Report to document the completed remediation and corrective action requirements of the Harrison County Garage Storage Yard (OHD987021177) located at State Route 9 and Toot Road in Cadiz, Ohio.

The December 3, 1993, Preliminary Assessment/Visual Site Inspection (PA/VSI) performed by a U.S. EPA contractor identified seven solid waste management units (SWMUs) at the facility, including the buried drum area. The facility chose to close the illegal buried drum disposal area instead of seeking a permit. Closure of the buried drum yard was completed, and the facility's closure certification was accepted by Ohio EPA. The facility is now under post-closure care pursuant to a closure plan approved by Ohio EPA on April 16, 1998 and an amended post-closure plan approved by Ohio EPA on September 24, 2004. As all seven of the SWMUs were addressed through approval and implementation of the closure and post-closure plans, Ohio EPA determined that a remedy for the facility was selected, construction of the remedy was completed, and no further investigation of the site is necessary.

2.0 Introduction

Harrison County is located in east central Ohio. The facility itself is located at State Route 9 and Toot Road, Cadiz, Ohio. The Storage Yard is a former strip mine that was backfilled and has been used as a storage yard since the early 1970s. The Harrison County Engineer's Department has been using the area since the early 1980s and continues to use it today. Storage yard operations included asphalt mixing in a pug mill, storage of sand, gravel, slag, salt, emulsion, and scrap metal. The property was officially transferred to the county from its previous owner, Consolidated Coal Company, in 1988.

3.0 Facility Operational History

Information provided by the former Harrison County Engineer indicates that twenty to thirty drums of various liquid and solid materials were buried during the winter of 1988. The burial site covered approximately 900 square feet in area. The drums were buried to a depth of six feet below grade, covered with excavated soil, and compacted with a bulldozer. Subsequent use of this area has been for storage of old logs and construction debris.

4.0 Physical Setting

The facility is in a partially reclaimed strip mine area. The fill material, estimated to be 20 to 30 feet thick at the eastern most edge, is thought to be overburden from the strip-mining operations. Natural soil surrounding the area is classified by the United States Department of Agriculture Natural Resources Conservation Service as a Coshocton silt loam. This soil is found on slopes, is moderately well drained but has a seasonally high-water table, low permeability, and a high surface runoff. Lenses of permeable material may exist contained with less permeable clays that occur in the area.

Minimal amounts of usable ground water are present in the unglaciated sandstone, shale, limestone and coal formations. Water supply wells typically yield less than three gallons per minute. The closest residential wells lie 1,300 to 2,000 feet to the east and are upgradient from the site.

5.0 Closure/Corrective Action Activities

In February 1991, 50 drums and 28 tons of surrounding contaminated soils were excavated from the former drum burial area. The excavation area was 20 feet by 10 feet and 6 to 8 feet deep. The drums contained hazardous waste which included the following constituents: Benzene, 1,1,1-Trichloroethane, Trichloroethene, Tetrachloroethene, Toluene, Xylenes (total), 2-Butanone, and 1,1-Dichloroethane. Burial of the drums on-site resulted in contamination of the soil, which necessitated removal of the 28 tons of soil. The drummed waste consisting of motor oil contaminated with mixed solvents was evaluated as F listed and D characteristic hazardous waste and was disposed off-site for incineration by Safety Kleen. Confirmatory soil samples indicated that the unit still contained contaminated soils after excavation, which resulted in the unit being considered a landfill closure subject to in-place, post-closure care. An original closure plan was received on August 29, 1994, and an amended closure plan was approved by Ohio EPA on April 16, 1998. A post-closure plan was approved by Ohio EPA on October 30, 2001. The remedy selected for the unit was an alternative final cover system consisting of an asphalt cap designed to minimize potential infiltration, provide encapsulation of residual waste materials, and provide long term material storage and similar passive use of the area. The cap covers a 2.3-acre area.

An investigation of the ground water in the fill area and bedrock at the site was conducted in 1999. A supplemental soil investigation to further delineate the extent of contamination at the site was conducted in 2000. Ground water monitoring has been conducted upgradient, downgradient and at the source area using a network of 11 wells since the fall of 2001. Several volatile organic compounds are the main constituents of concern. Post-closure groundwater monitoring activities began in January of 2002. Until 2008 ground water was monitored on a semi-annual basis according to the terms of the approved amended post-closure plan. Due to the fact that contamination has never been detected in the downgradient monitoring wells, Harrison County was authorized to reduce groundwater sampling from semi-annual to annual monitoring events beginning in 2008. In March of 2014, Harrison County requested to further reduce the frequency of sampling, as there continued to be no detection of contaminants during their annual sampling. This approach was approved by Ohio EPA and the groundwater sampling was henceforth conducted every five years.

Several revised and amended closure/post-closure plans were submitted to Ohio EPA between 1994 and 2005. An amended closure plan was approved by Ohio EPA on October 30, 2001. The closure field activities to cap the former drum burial area began on October 1, 2001 and were completed by December 15, 2001. Ohio EPA performed the closure certification inspection on January 31, 2002. On June 5, 2002, Ohio EPA sent a letter to Harrison County indicating closure was conducted in accordance with

the closure plan, however a survey plat was not included. The current post closure plan that addresses post-closure care of the unit, was submitted to Ohio EPA in June 2004 and approved on September 24, 2004.

Solid Waste Management Units (SWMUs) identified in the December 3, 1993 Preliminary Assessment/ Visual Site Inspection (PA/VS)

The December 3, 1993 PA/VS of the Harrison County Highway Department evaluated two separate properties, the highway garage and the materials storage yard. Only the Storage Yard (EPA ID OHD987021177) is the subject of this summary. The garage area (EPA ID OHD987036092), consisting of SWMU's 1-4, is not subject to RCRA corrective action and is not included in this summary.

The PA/VS identified seven SWMUs within the now capped area of the Storage Yard. The units were as follows:

Table 1			
Solid Waste Management Unit (SWMUs) Unit Name	Operational Dates	Year Addressed	Action Taken
SWMU 6- Former Used Oil Burner	Unknown	2001	Asphalt Cap of 2.3 Acre Area
SWMU 7- Scrap Metal Storage Area	Unknown	2001	Asphalt Cap of 2.3 Acre Area
SWMU 8- Soil Roll-Off Box	1991-1993	2001	Asphalt Cap of 2.3 Acre Area/Offsite Disposal
SWMU 9- Construction Debris Dump	Unknown	2001	Asphalt Cap of 2.3 Acre Area
SWMU 10- Former Drum Storage Roll-Off Box	1991-1993	2001	Offsite Disposal/Asphalt Cap of 2.3 Acre Area
SWMU 11- Former Drum Burial Area	1988	1991/2001	Excavation/Offsite Disposal/Asphalt Cap of 2.3 Acre Area
SWMU 12- Materials Storage Yard	1960's-2001	2001	Asphalt Cap of 2.3 Acre Area

The PA/VS recommended RCRA closure for SWMUs 10, 11, and 12. Closure of these units was performed. For SWMU 9, the PA/VS recommended that the County contact Ohio EPA and pursue a solid waste permit. Ohio EPA reviewed the need for a solid waste permit and determined that the selected remedy, capping of the area, would suffice. The other SWMUs were included in the overall area that was addressed by the closure and post-closure plans.

In February 2006, Ohio EPA reviewed information in the PA/VSI and concluded that all the SWMUs discussed in the report were within the area that was capped through closure of the Storage Yard. To date no site related constituents have been detected during groundwater monitoring. Therefore, the potential threat to human health and the environment posed by these areas were eliminated.

Environmental Indicator (EI) History:

Ohio EPA completed four Environmental Indicator corrective action reports for Harrison County Garage Storage Yard. The CA400/CA 550RC (Remedy Decision/Remedy Construction) was completed on April 19, 2006. The CA 725 (Current Human Exposures Under Control) was completed on January 11, 2006. The CA 750 (Migration of Contaminated Groundwater Under Control) was also completed on January 11, 2006, and the CA800 (Ready for Anticipated Use) was completed on February 5, 2008.

7.0 Conclusions

Ohio EPA has determined that the Harrison County Garage has met the Corrective Action Requirements for the SWMUs identified in the PA/VSI Report based on the closure certification provided by Ohio EPA in 2002, information provided by Harrison County since the completion of the PA/VSI in 1993, and Ohio EPA RCRA inspections and additional data collection.

Attachments

Harrison County Garage Timeline for Closure Activities at the Facility

References

Harrison County Garage, RCRA Facility Assessment Final 1993 PA/VSII Report, U.S. EPA Region V,

Closure and Post Closure Plan for Harrison County Garage, November 26, 1997, Terran Corporation

Closure and Post Closure Plan for Harrison County Garage, September 30, 2002, Civil & Environmental Consultants, Inc.

Harrison County Garage, Corrective Action EI RCRIS CA 750, Completed by Elizabeth Herron, Ohio EPA-DERR 1/11/2006

Harrison County Garage, Corrective Action EI RCRIS CA 725, Completed by Elizabeth Herron, Ohio EPA-DERR 1/11/2006

Harrison County Garage, Corrective Action Remedy Decision/Remedy Completion Summary for the Harrison County Garage Storage Yard (OHD987021177) 4/19/2006

RCRAInfo Version 6

Figures

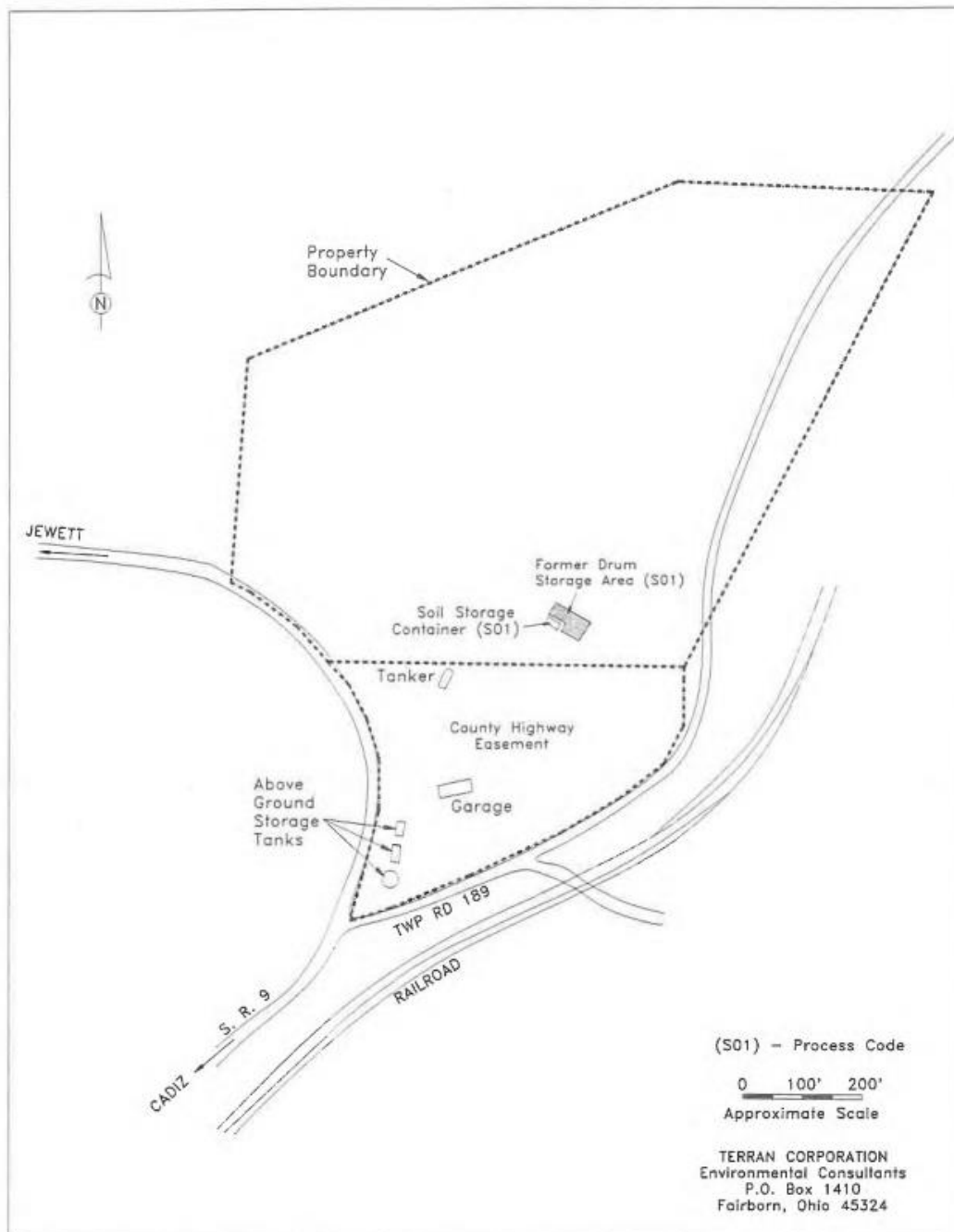


Figure 1. Harrison County's Engineer Storage Facility with previously buried drums located within the Former Drum Storage Area.

Attachment A
Harrison County Garage
Timeline for Closure Activities at the Facility

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| ➤ September 27, 1990 | Removal Workplan submitted to Ohio EPA |
| ➤ October 10, 1990 | Ohio EPA accepts Removal Workplan |
| ➤ February 4-7, 1991 | Removal of buried drums and soil sampling excavation |
| ➤ February 3, 1992 | US EPA complaint filed |
| ➤ July 23, 1993 | Harrison County signs Consent Agreement and Final Order |
| ➤ August 31, 1993 | Partial closure complete, all source material removed and properly disposed of |
| ➤ September 15, 1993 | US EPA hazardous waste permit application Part A signed by Harrison County |
| ➤ September 16, 1993 | Closure and Post-Closure Plan submitted to Ohio EPA |
| ➤ September 16, 1993 | Payment of civil penalty and late payment charge to US EPA for \$24,020.00 |
| ➤ October 1, 1993 | Groundwater Quality Assessment Program Plan submittal to Ohio EPA |
| ➤ February 1, 1994 | Ohio EPA issues Notice of Deficiency for Closure Plan |
| ➤ March 2, 1994 | Modified Closure Plan submitted to Ohio EPA |
| ➤ April 15, 1994 | Submittal of Subsurface Sampling Plan to Ohio EPA |
| ➤ August 3-4, 1994 | Additional subsurface soil sampling conducted |
| ➤ | |
| ➤ August 29, 1994 | Submittal of Closure and Post-Closure Plan, Revision 2 |
| ➤ September 6, 1996 | Ohio EPA issues Notice of Deficiency for Closure Plan and Post-Closure Plan |
| ➤ November 30, 1997 | Submittal of Closure and Post-Closure Plan, Revision 3 |
| ➤ April 16, 1998 | Closure Plan Approval |
| ➤ September 30, 1999 | Submit Closure Certification and Post Closure Care |
| ➤ December 1999 | Civil and Environmental Consultants, Inc. are retained as consultants and begin additional soil and groundwater sampling |
| ➤ August 16, 2001 | Submittal of Closure and Post-Closure Plan to Ohio EPA, Revision 4 |
| ➤ October 1, 2001 | Closure activities begin |
| ➤ October 30, 2001 | Ohio EPA approves amended Closure and Post-Closure Plan |
| ➤ December 15, 2001 | Completion of closure activities |
| ➤ January 31, 2002 | Closure Certification |

- April 15, 2002 Submittal of Closure Certification to Ohio EPA
- June 5, 2002 Letter from Ohio EPA to Harrison County Garage indicating closure was performed in accordance with the closure plan (survey plat not included)
- August 12, 2002 Ohio EPA issues comments on Closure Plan
- September 24, 2002 Submittal of Compliance Monitoring Sampling and Analysis Plan to Ohio EPA
- October 3, 2002 Submittal of Closure and Post-Closure Plan, Revision 5
- September 24, 2004 Ohio EPA approves Post-Closure Plan
- October 4, 2005 Submittal of Closure and Post-Closure Plan, Revision 6
- April 11, 2011 Final Closure Certification Received